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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,511	11/11/2002	Guillaume Laffont	215653US2PCT	6844
22850	7590	01/25/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			STAFIRA, MICHAEL PATRICK	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,511

Applicant(s)

LAFFONT ET AL.

Examiner

Michael P. Stafira

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 12-18 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/1/02</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 12-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In independent claim 12, applicant discloses a waveguide with at least one transducer, then discloses "by a blazed Bragg grating". As it is written it is unclear if the transducer and the blazed Bragg grating are the same thing or two separate optical elements claimed in the limitations. After reading the specification the examiner for examination purposes is going to assume there is only one transducer. Claims 13-22 are rejected because they depend on a rejected independent claim and hold the same defect.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

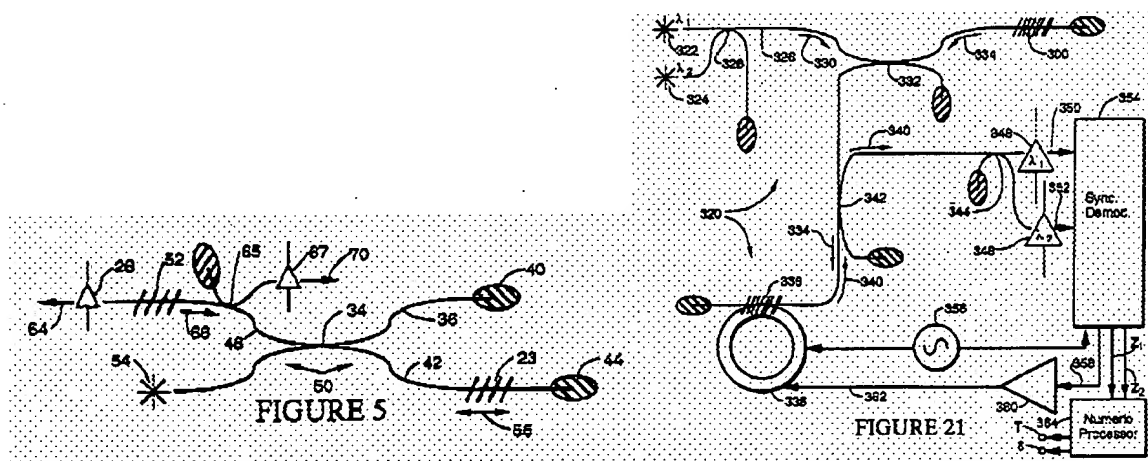
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-18, 20, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Udd et al. ('995).

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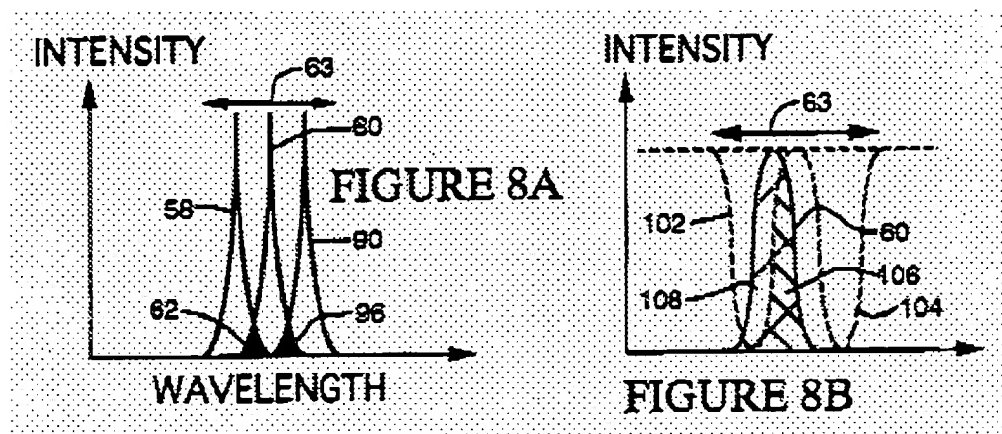
Claim 12

Udd et al. ('995) discloses a waveguide (Fig. 5, Ref. 42) comprising at least one transducer (Fig. 5, Ref. 23) formed, in the part of the waveguide (Fig. 5, Ref. 42) brought into contact with the medium (Fig. 5, Ref. 55), the spectral response of which depends on the refractive index of the medium by means of energy coupling between the guided mode and cladding modes and/or a continuum of radiative modes, a light source (Fig. 5, Ref. 54) optically coupled to the waveguide (See Fig. 5) in order to direct this light therein and to make it interact with the transducer (Fig. 5, Ref. 23), spectral analysis means (Fig. 5, Ref. 26) provided to analyze the light which has interacted with the grating and to provide a spectrum corresponding to this transducer (Fig. 5, Ref. 23), acquisition means (Fig. 21, Ref. 364) provided to recover this spectrum, and electronic processing means (Computer calculations, Col. 11-12, lines 63-17) provided to correlate, from the spectrum thus recovered, the spectral response of the transducer with a value of the refractive index of the medium and to provide this value.

**Claim 13**

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Udd et al. ('995) discloses an electronic processing means are provided in order to determine the lower and upper envelope curves of the normalized spectrum and the normalized area between these two curves (Col. 7, lines 35-65).

**Claim 14**

Udd et al. ('995) further discloses the waveguide comprises a single blazed Bragg grating (Fig. 5, Ref. 23). (It is the examiner position that the angled lines of grating 23 are the industry standard for indicating a blazed Bragg grating.)

Claim 15

Udd et al. ('995) discloses waveguide comprises a plurality of blazed Bragg gratings (Fig. 5, Ref. 23, 52), the spectral analysis means (Fig. 5, Ref. 26) are provided in order to analyze the light which has interacted with the gratings (Fig. 5, Ref. 23, 52) and to provide the spectra corresponding respectively to these gratings (See Fig. 8A, 8B), the acquisition means (Fig. 21, Ref. 364) are provided in order to demultiplex, in an optical manner, the spectra thus provided and to discriminate the respective spectral responses of the gratings (Fig. 5, Ref. 23, 52) and the electronic processing means are provided in order to correlate the spectral response of each

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grating (Fig. 5, Ref. 23, 52) with the value of the refractive index of the medium corresponding to this grating (Fig. 5, Ref. 23, 52).

Claim 16

Udd et al. ('995) further discloses the light source is a broad spectrum source (Col. 6, line 22).

Claim 17

Udd et al. ('995) further discloses the light source (Fig. 5, Ref. 54) is a narrow spectrum source (Col. 8, lines 53-65), the wavelength of which can be tuned, and the spectral analysis means comprise a photodetector (Fig. 5, Ref. 26).

Claim 18

Udd et al. ('995) further discloses the light source (Fig. 5, Ref. 54) is optically coupled to a first end of the waveguide (Fig. 5, Ref. 42) and the spectral analysis means (Fig. 5, Ref. 26) are optically coupled to a second end of this waveguide (Fig. 5, Ref. 46), for the purpose of measuring the refractive index by transmission.

Claim 20

Udd et al. ('995) discloses spectral analysis means are provided in order to acquire each spectrum, with as small a wavelength pitch as allowed by the analysis technique (See Fig. 8A-8B).

Claim 21

Udd et al. ('995) discloses the waveguide is an optical fiber (Col. 5, line 46).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Udd et al. ('995).

Claim 22

Udd et al. ('995) discloses the claimed invention except for the waveguide is a planer waveguide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Udd et al. ('995) with the planer waveguide since it was well known in the art that planer waveguides provide a rigid support, therefore allowing the planer waveguide to be its own support.

Allowable Subject Matter

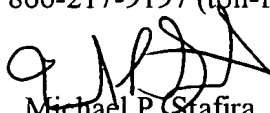
7. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael P. Stafira
Primary Examiner
Art Unit 2877

January 19, 2005